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ABSTRACT

This study evaluated the effect a developmentally appropriate curriculum, implemented as part of a Head Start Transition Project for public kindergarten through third grade to maintain and enhance the benefits attained by Head Start children and their families. Participating were two cohorts of students in demonstration and comparison classrooms from eight schools in Worchester, Massachusetts. Classroom observation data were collected at the end of each of the 5 years using the Assessment Profile for Early Childhood Programs: Research Version; the ADAPT: A Developmentally Appropriate Practice Template was added in Year 3. Children were followed from kindergarten through grade 3, with Cohort 1 beginning kindergarten in 1992 and Cohort 2 in 1993. At demonstration schools, monthly teacher in-service training was given during the first 2 years and additional funds were made available to purchase materials. Comparison schools did not receive any Transition Project resources, although some underwent considerable reform and received considerable classroom resources. Findings indicated that classrooms receiving resources to create developmentally appropriate classrooms and with a principal committed to the philosophy of developmentally appropriate practice were further advanced in providing a developmentally appropriate environment than classrooms which did not receive or fully implement these resources. Further, there was a general decrease in the use of developmentally appropriate practices over the years, but an increase within classes from year to year. (Appendices include descriptive data summaries. Contains 13 references.) (KB)

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Transition Project -

Observing Early Childhood Classrooms

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Table of Contents

Abstract 4

Introduction 5

Developmentally Appropriate Curriculum 6

Formulating a Developmentally Appropriate Curriculum 6

Classroom Resources 7

Demonstration Schools 7

Comparison Schools 8

Method 8

Research Design 8

Sample 9

Instruments 10

The Assessment Profile for Early Childhood Programs. 10

ADAPT: A Developmentally Appropriate Practice Template 12

Classroom Observation Procedures 12

Observer Reliability 13

Analysis of Data 13

Results 14

Assessment Profile 14

Spring 1993 and Spring 1994. 14

Spring 1995. 15

Spring 1996 and Spring 1997. 16

ADAPT 16

Spring 1995 16

Spring 1996 and Spring 1997 17

Summary of Results 17

Discussion 19

Limitations of the Study 19

Research Design Meets School Reform 19

School G - A Comparison-1 School 20

Demonstration Schools 21

Conclusion 21

Appendix A - Assessment Profile Results 24

Appendix B - ADAPT Results 29

References 36

Abstract

The Worcester Public Schools, Worcester, MA received a grant from the U.S. Department of Health and Human Services, to provide services to maintain the early benefits attained by Head Start children. One component of the program is the advancement of a developmentally appropriate curriculum. This study examines the differences between demonstration and comparison classrooms for two cohorts of students during the five year period of program implementation. Two classroom observation instruments were used for observations. From the analysis of data, the study concludes that school classrooms, which received considerable resources to create developmentally appropriate classrooms, and had a principal committed to the philosophy of developmentally appropriate practice, are further advanced in providing a developmentally appropriate environment for children than the schools, which did not receive or fully implement these resources.

Introduction

In October 1991, the Worcester Public Schools, Worcester, MA was awarded a National Head Start-Early Childhood Transition grant from the U.S. Department of Health and Human Services, Administration on Children, Youth and Families, to test the hypothesis that the provision of a continuous program of comprehensive services (including parent involvement, social services, cognitive development, health, and nutrition), starting in kindergarten and continuing through third grade, will maintain and enhance the early benefits attained by Head Start children and their families. One component of the service package in this project is the advancement of a developmentally appropriate curriculum, and considerable resources have been invested in this area. This presentation focuses on the results of these efforts and examines the differences between schools and classrooms, which have served as demonstration and comparison settings for the study, during the five years of program implementation. Two classroom observation instruments, which examine developmental practice, were used for observation purposes. An earlier study (Leibowitz & Chates, 1995) investigated this relationship for the first two years of program implementation, using one observation instrument. It was hypothesized that the Transition demonstration school classrooms were further advanced in providing a developmentally appropriate curriculum to students than the comparison school classrooms. The earlier study found evidence to support this hypothesis. The present study examines this same hypothesis, using two classroom observation instruments and exploring the entire period of project implementation -- five years. This study investigates the effects of investing substantial resources in classrooms in economically impoverished areas and may have further generalizability to other classrooms in similarly impoverished areas.

Developmentally Appropriate Curriculum

The idea of a developmentally appropriate curriculum is grounded in a philosophy of education, based on research by Bruner (1960), Chomsky (1972), Dewey (1938), Erikson (1963), Gardner (1983), Kohlberg (1981), and Piaget (1970). This research supports a curriculum with adults interacting with children at each child's existing level of development, using appropriate activities and materials. It also supports a learning environment which is child-centered.

A developmentally appropriate curriculum can be described as a "curriculum that is appropriate for the child's age and all areas of the individual child's development, including educational, physical, emotional, social, cognitive, and communication" (Federal Register, 1991, p. 31819). The National Association for the Education of Young Children (1991) also provides guidelines for providing a developmentally appropriate curriculum from ages 3 to 8.

Formulating a Developmentally Appropriate Curriculum

To comply with the Federal guidelines for the Transition Project that required the implementation of a developmentally appropriate curriculum in the respective classrooms of the demonstration schools beginning in September 1992, a curriculum consultant was hired in January 1992 to serve as the facilitator of a process that would lead to the development of a new curriculum for the project schools. A curriculum committee was convened later that January, consisting of forty members including teachers, administrators, a Chapter 1 Head Teacher, an Early Childhood Teacher Trainer, and several parents. A conscious decision was made to write a curriculum, rather than adopt one such as High Scope, so that it would be 'tailor-made' to meet

the needs of the district. From January to August of 1992 the committee, under the direction of the curriculum consultant, completed the Philosophy, Goals, Developmental Characteristics, Math and Literacy sections. Four committees were then developed to write the respective sections of Science, Physical Development, Art & Music, and Social Studies. After field-testing the curriculum for the first full year of the program, the school committee gave their unanimous approval of the curriculum in October 1993.

The formulation and writing of the developmentally appropriate curriculum functioned as a powerful staff development and training endeavor, with the end-products being a curriculum and a group of teachers with a strong investment in the implementation of this curriculum.

Classroom Resources

Demonstration Schools.

In accordance with the specifications for a developmentally appropriate classroom, the Transition demonstration schools were given considerable resources, including training and materials. A faculty/staff development plan was established and implemented based on a survey assessing their needs and interests. During the first two years, monthly in-service training was provided to classroom teachers. An annual allocation of funds was made available to demonstration site teachers to purchase materials that support the developmentally appropriate curriculum.

In addition, the classroom teachers worked in cooperation with the Transition Project Parent Room staff to assist parents in understanding the classroom environment and the meaning of a developmentally appropriate curriculum and classroom. This collaboration also became a

means of furthering and reinforcing the faculty development function in relation to developmentally appropriate practice.

Comparison Schools.

The comparison schools in the study did not receive any Transition Project resources. However, during the 1990's, which encompasses the five years of program implementation, many changes in educational philosophy and school reform, including the trend toward the provision of developmentally appropriate practices in early childhood classrooms, became increasingly popular and widespread. Since resources secured outside of the Transition Project could not be withheld from comparison schools, some underwent considerable reform and received considerable classroom resources during the five years of the study.

Method

Research Design

The original research design for this study included four schools randomly assigned to the demonstration cluster and four schools randomly assigned to the comparison cluster. All schools were Chapter 1 school-wide projects with poverty levels of 75% or greater.

At the time of the proposal for funding for this project, the eight participating schools were approximately equivalent or comparable. The eight schools were then randomly assigned as demonstration and comparison schools. However, beginning in September 1992, two of the original comparison schools changed from typical neighborhood schools to magnet schools. These two schools had an immense investment of resources from sources other than the

Transition Project. Thus, two of the four comparison schools are not comparable to the demonstration schools or to the other two comparison schools. Because of this situation, it became necessary to analyze the data in a different manner than simply looking at differences between the demonstration and comparison school populations. All analysis has, therefore, been done using both a traditional model of demonstration/comparison group differences, as well as using a different approach - a demonstration/comparison-1/comparison-2 model of analyzing group differences. In this presentation, comparison-1 refers to the two comparable comparison schools, and comparison-2 refers to the two comparison schools which received special resources, based on their status as magnet schools.

Sample

The sample in this study consists of the classrooms of two cohorts of children who were followed from kindergarten through grade 3 in the National Head Start-Public School Early Childhood Demonstration Study. Cohort 1 children began kindergarten during Fall 1992 and Cohort 2 children began kindergarten during Fall 1993. Each year all grade level classrooms of Cohort 1 and Cohort 2 children were observed. Thus, classrooms were observed in the eight research schools over the duration of the project as follows: in Spring 1993, 25 kindergarten classes (Cohort 1); in Spring 1994, 23 kindergarten (Cohort 2) and 25 grade 1 (Cohort 1) classes; in Spring 1995, 22 grade 1 (Cohort 2) and 23 grade 2 (Cohort 1) classes; in Spring 1996, 20 grade 2 (Cohort 2) and 21 grade 3 (Cohort 1) classes; in Spring 1997, 20 grade 3 (Cohort 2) classes.

Instruments

At the end of each year of the five years of program implementation (Spring 1993 through Spring 1997) classrooms in the four demonstration and four comparison schools were observed using the Assessment Profile for Early Childhood Programs: Research Version (Abbott-Shim & Sibley, 1992). At the end of the third year of program implementation (Spring 1995), another classroom observation instrument was added - ADAPT: A Developmentally Appropriate Practice Template. (Gottlieb, 1995). Thus, beginning in Spring 1995, two classroom observation instruments were used.

The Assessment Profile for Early Childhood Programs.

The Assessment Profile for Early Childhood Programs: Research Version (Abbott-Shim & Sibley, 1992) includes 87 criteria, organized into five scales: (a) Learning Environment, (b) Scheduling, © Curriculum, (d) Interacting, and (e) Individualizing. Each criterion is scored as "yes", if observed, and "no", if not observed. Data are collected through observation of the classroom, interview with the teacher, and review of documents.

The Assessment Profile for Early Childhood Programs Research Manual (Abbott-Shim, Sibley, & Neel, 1992) provides the following descriptions of each Scale. The Learning Environment Scale focuses on the accessibility of a variety of learning materials to children in the classroom. Variety is assessed across conceptual areas and within each conceptual area. The Scheduling Scale assesses the written plans for classroom scheduling, as well as the implementation of classroom activities. The Curriculum Scale measures the variety of teaching techniques used to facilitate learning and the individualization of learning activities based on the

teacher's assessment of children in the class. It also examines the opportunities for children to guide their own learning and the role of the teacher in fostering multicultural awareness, learning, and appreciation. The Interacting Scale assesses the interactions between the teacher and children. This scale focuses on the teacher's initiation of positive and verbal interactions, responsiveness to children, and the behavior management approach. The Individualizing Scale assesses the teacher's implementation and use of systematic and comprehensive child assessment in planning and organizing learning experiences that match the skill level of each child.

The validity of the Assessment Profile has been established through content validity and criterion validity (Abbott-Shim, Sibley, & Neel, 1992). To establish content validity, determining the degree to which the instrument depicts high quality early childhood classrooms and teaching practices, the authors of the instrument conducted a thorough review of the early childhood/child development literature, and had the instrument reviewed by numerous professionals, including early childhood trainers, program administrators, teachers, resource and referral staff, and professors of early childhood education. The instrument was field-tested in 90 child care centers and was used for program evaluation over a period of ten years. The Assessment Profile was also compared with the Accreditation Criteria of the National Association for the Education of Young Children, which gives some nationally recognized standards for high quality, early childhood, developmentally appropriate practices. There was a 100% match in the criteria between the two measures.

The Assessment Profile has also been used in criterion related validity studies along with The Early Childhood Environment Rating Scale, a scale containing 37 items across 7 sub-scales, which has been used to determine the quality of care in early childhood programs. Moderate to

good correlations have been found in these studies, with one study showing a significant overall correlation (r=.74, p=.000).

Reliability of the Assessment Profile has been reported by scale for Classical Measurement Theory Reliability using Cronbach's Alpha and Spearman-Brown corrected split-halves formula, and for Item Response Theory Reliability. The scale reliabilities are high, ranging from .79 to .99.

ADAPT: A Developmentally Appropriate Practice Template.

ADAPT (Gottlieb, 1995) is a measure designed to capture dimensions of developmentally appropriate practices. The instrument rates classrooms on a scale of 1 (low) to 5 (high) for 19 items, which are organized into three domains: (1) Curriculum and Instruction: Promoting Children's Academic Development, (2) Interaction: Supporting Children's Social and Emotional Development, and (3) Classroom Management: Facilitating Children's Overall Development; and a Classroom Summary of Developmentally Appropriate Practice. Each point along the five point continuum is either additive in nature, based on the assumption that one level is built upon the preceding one, or descriptive, where each successive level assumes a more positive developmentally appropriate stance from the previous one (Gottlieb, 1995). Data are collected by observation simultaneously with the Assessment Profile for Early Childhood Programs.

Classroom Observation Procedures

The classroom observation protocol was organized in such a way that classrooms in a school were observed on the same day on a rotating basis. The classrooms were visited on a 15-

minute rotating cycle for 4 rotations, to get a sampling or "snapshot" of each classroom at different times of the day. Approximately one hour of time was spent in each classroom.

In this study the classroom observations were performed by two observers. During Year 1, both observers were present together in the same classrooms during the same times, and recorded individual responses to the instrument items. The observers then discussed any items in the instrument where there was disagreement. During subsequent years, Observer 1 observed all Cohort 1 classrooms and Observer 2 observed Cohort 2 classrooms, with the exception of the final year, at which time Observer 1 observed all Cohort 2 classrooms..

Observer Reliability

Before the commencement of data gathering for this study, the two observers worked together in training/piloting situations and established strong reliability levels ($r > .90$). During Year 1, when the observers worked together in all classrooms, there was a high level of reliability in the observations ($r = .96$).

Analysis of Data

The results of the Assessment Profile for Early Childhood Programs were analyzed by creating an individual scale score for each of the five scales on the instrument: Learning Environment, Scheduling, Curriculum, Interacting, and Individualizing, and by creating a total composite score including all five scales. Beginning in Spring 1995, one additional scale 'Availability of Learning Materials' was added to the instrument.

The results of ADAPT: A Developmentally Appropriate Practice Template were analyzed by creating an individual scale score for each of the three dimensions of the instrument: Curriculum and Instruction, Interaction, and Classroom Management. The Classroom Summary of Developmentally Appropriate Practice, which reflects the existence of concrete evidence of developmentally appropriate practices, is reported. A Total Composite score, including the three dimension scores and the summary score, was also created.

Scale mean and standard deviation scores were calculated, and Analysis of Variance was performed by demonstration/comparison-1/comparison-2 for all scales/dimensions on both instruments. Multiple comparison tests using Tukey (p of .05) and Scheffe (p of .01) tests were also used.

Results

Assessment Profile

The mean scores on the Assessment Profile for Early Childhood Classrooms from Spring 1993 through Spring 1997 are shown in Table 1 (A) in Appendix A. School A, School B, School C, and School D are demonstration schools. School E and School G are comparison-1 schools. School F and School H are comparison-2 schools.

Spring 1993 and Spring 1994.

As previously reported (Leibowitz & Chates, 1995), during 1993 the scores for the Total Composite, the Learning Environment Scale, and the Curriculum Scale were in the predicted direction, with statistically significant differences ($p < .05$ or $p < .01$) found between

demonstration school classrooms and comparison-1 school classrooms, as well as between comparison-2 school classrooms and comparison-1 school classrooms. In Spring 1994, the same scales were in the predicted direction, with demonstration and comparison-2 school classroom scoring higher than the comparison-1 school classrooms. However, in 1994, the differences were not statistically significant. The authors concluded at that time that there was some evidence that the focused investment of resources in school classrooms reflects in the individual classroom curriculum approach, and encourages a more developmentally appropriate classroom environment. However, it was possible that the necessity of separating the comparison group into comparison-1 and comparison-2 groups, generated very small n's, and created the predicament of few statistically significant differences.

Spring 1995.

Analysis of the Assessment Profile for Cohort 1 in Spring 1995 was performed using 23 second grade classrooms in the eight demonstration and comparison schools. Table 2 (A) shows the results of the Analysis of Variance and Multiple Comparison Tests for this group..

Results of this data show that statistically significant differences ($p < .05$ or $p < .01$) were found between the comparison-1 and comparison-2 classrooms on the Curriculum Scale, and between demonstration and comparison-2 classrooms on the Individualizing Scale. On both the Learning Environment Scale and the Total Composite Score, demonstration and comparison-2 classrooms scored higher than comparison-1 classrooms, however, statistically significant differences were not found.

Analysis of the Assessment Profile for Cohort 2 in Spring 1995 was performed using 22 first grade classrooms in the demonstration and comparison schools. Table 3 (A) shows the results of the Analysis of Variance and Multiple Comparison Tests.

Results of this analysis show that statistically significant differences were found between demonstration and comparison-1 classrooms, as well as between comparison-2 and comparison-1 classrooms on the Total Composite Score, the Learning Environment Scale, and the Curriculum Scale. Statistically significant differences were also found between demonstration and comparison-1 classrooms on the Interacting Scale, and between comparison-1 and comparison-2 classrooms on the Scheduling Scale and Individualizing Scale.

Spring 1996 and Spring 1997.

In 1996 and 1997, there was only one statistically significant difference ($p < .05$) on the Availability of Learning Materials Scale between comparison-1 and comparison-2 classrooms. Otherwise, there were no statistically significant differences ($p < .05$ or $p < .01$) among demonstration, comparison-1, or comparison-2 classrooms on any of the scales or the total composite score.

ADAPT

Spring 1995.

Spring 1995 was the first data collection point using ADAPT: A Developmentally Appropriate Practice Template. The results of classroom observations from Spring 1995 through Spring 1997 using this instrument are shown in Table 1 (B) in Appendix B. The results are

shown for each scale by year. This table presents the scale scores by school, as well as by demonstration, comparison-1, and comparison-2 groups. Analysis of ADAPT in Spring 1995 was performed using 45 first and second grade classrooms in the eight demonstration and comparison schools. Table 2 (B) shows the results of the Analysis of Variance and Multiple Comparison Tests.

There are statistically significant differences ($p < .05$ or $p < .01$) in the predicted direction for all scales, for the classroom summary score, and for the total composite score between demonstration and comparison-1 classrooms, as well as between comparison-2 and comparison-1 classrooms.

Spring 1996 and Spring 1997.

For both Spring 1996 and Spring 1997, there are no statistically significant differences ($p < .05$ or $p < .01$) among demonstration, comparison-1, and comparison-2 classrooms. However, it is significant to note the individual school scores in Table 1 (B) in two areas. First, in two schools, School B (demonstration) and School H (comparison-2), classrooms consistently present much higher scores than those in the other schools. Second, School G (comparison-1) classrooms have jumped considerably higher in performance in all areas from 1995 to 1996, and they remain so for 1997.

Summary of Results

From the results over five years of data collection using the two instruments, there emerge three distinct phases. The first phase spans the first two years of data collection, 1993

and 1994. During this phase, there were a considerable number of statistically significant differences among the demonstration, comparison-1, and comparison-2 groups. The second phase focuses around the data collection in Spring 1995. During this time, on The Assessment Profile there were some differences in the expected direction, however, most were not statistically significant, perhaps due to small n's. On ADAPT there were statistically significant differences between demonstration and comparison-1 classrooms, as well as between comparison-2 and comparison-1 classrooms -- as predicted. These results provide evidence to support the hypothesis that the schools which invest greater resources to create developmentally appropriate classrooms are further advanced in providing a developmentally appropriate environment for these children, than the comparison schools which did not receive these resources. The third phase which emerges from the data focuses around the final two years of data collection, 1996 and 1997. During these two years, there were essentially no statistically significant differences among demonstration, comparison-1, and comparison-2 classrooms.

The Assessment Profile results, which span four years for each of the two cohorts, show a general decrease in the use of developmentally appropriate practices over the four years periods. Developmentally appropriate practices are highest in kindergarten and decrease beginning in Grade 1. However, the data also indicate a general increase within classes from year to year. Thus, Grade 1 in 1995 is more advanced in providing students with a developmentally appropriate curriculum than Grade 1 in 1994.

Discussion

Limitations of the Study

The major limitation of the study is the small sample size, particularly in comparison-1 and comparison-2 groups. This is a disadvantage when performing Analysis of Variance tests on the data. With a small sample size, differences between groups often do not appear to be statistically significant. In some of the data presented, the trends of difference between group means do not show statistical significance. This may be due, in part, to the small number of classrooms being compared.

Another limitation of the study is the inability to control: (1) the input of resources into the comparison schools, including comparison-1 schools, and (2) the degree to which programs were implemented in demonstration schools.

Research Design Meets School Reform

The comparison schools in this study, as described earlier, are of two types. At the beginning of the study, the two comparison-1 schools were equivalent or comparable to the demonstration schools, however, they did not receive Transition Project services, or many other services. Thus, they were able to serve as real comparison schools. Comparison-2 schools were determined to be equivalent or comparable at the time of random assignment, however, by the first year of program implementation became magnet schools - one an Accelerated Learning Lab and the other a Science and Technology magnet. Both of these schools received considerable resources in terms of materials, teacher training, and supervision, with considerable focus toward the provision of a developmentally appropriate curriculum, consistent with many aspects of

elementary school reform. The Accelerated Learning Lab (School H), in particular, was affiliated with Clark University, as a lab school and received huge investments of resources. Thus, these schools can not be considered comparison schools in the same way that comparison-1 schools serve this function.

School G - A Comparison-1 School.

During the five years of the study, many changes in educational philosophy and school reform, including the provision of developmentally appropriate practices in early childhood classrooms, became increasingly popular and widespread. Since services secured outside of the Transition Project could not be withheld from comparison schools, one Comparison-1 school, School G, underwent considerable reform during the five years of the study. Beginning in Fall 1995 (midway through the study), a new principal brought innovative ideas and resources, and a number of different reforms were instituted. Among the reforms was the promotion of developmentally appropriate practices in classrooms. This change showed in the Spring 1996 and Spring 1997 data, with this school drastically raising its scores from the previous years.

The original research design comparing demonstration and comparison schools was changed earlier in the study to meet the reality of the change in resources of two comparison schools, which became the comparison-2 schools. Five years later, some new realities need to be evaluated in relation to the research design. First, the strong promotion of a developmentally appropriate curriculum in a comparison-1 school in the middle of the study confounds the research design using the comparison-1/comparison-2 grouping. School G lost many of the characteristics of a comparison-1 school and received some resources similar to the

demonstration schools. This change of focus and resources in School G changes its status as a comparison-1 school. As a result, the configuration of the research design, and the interpretation of the data are threatened.

Demonstration Schools.

Although the demonstration schools were given the training, resources, and support from the Transition Project described earlier, the degree to which these resources were accessed and incorporated into each school's environment and instructional methodology varied considerably among the four schools. Thus, there is also some confounding of the research design in these schools. At School A, the principal never understood or embraced a developmentally appropriate curriculum. School B fully embraced the developmental curriculum, was previously focused on its implementation, and was able to constructively utilize all training and resources that were offered. School C had five principals during the span of the project and, with the exception of one principal, limited commitment to promoting a developmentally appropriate curriculum. School D's principal during the first three years of the study did not want the project in that school. The principal for the last two years did embrace the project, but encountered a faculty largely uncommitted to developmentally appropriate practices.

Conclusion

The original hypothesis in the study states that the Transition demonstration school classrooms are further advanced in providing a developmentally appropriate curriculum to students than the comparison school classrooms, that the infusion of training, resources, and

support will allow the schools to incorporate more developmentally appropriate practices. The results of the study during the first three years, 1993-1995, provide evidence through the configuration of comparison-1 and comparison-2 schools to support the hypothesis that schools receiving more resources will provide classroom environments that are more developmentally appropriate. The design contained two comparison-1 schools with few resources, and two comparison-2 schools, which received many resources. Results showed similar levels of developmentally appropriate practices in both demonstration and comparison-2 schools, with comparison-1 schools showing fewer developmentally appropriate practices than either of the other two groups. Thus, in the first three years of the study there is considerable evidence to support the original hypothesis. A closer look at the last two years of the study, 1996 and 1997, by individual schools, indicates that the schools receiving the most input of resources for the duration of the study, as well as those most committed to the philosophy of developmentally appropriate practice, were further advanced in providing students with a developmentally appropriate curriculum, than those receiving resources, but not necessarily utilizing them or being highly committed to implementing the curriculum. The schools which have both received the resources and had a consistently high commitment, include School B (a demonstration school) and School H (a comparison-2 school). Although School G (a comparison-1 school) raised its scores considerably during the last two years of the study, they did not reach the levels of School B and School H.

Thus, it can be concluded from this study that, although training and resources are necessary and extremely important for the support of a developmentally appropriate curriculum, they are not sufficient. A commitment to the philosophy of developmentally appropriate practice

on the part of the school principal is equally critical to the success in providing students with a developmentally appropriate curriculum.

APPENDIX A

Longitudinal Data

Assessment Profile for Early Childhood Classrooms

Table 1

Longitudinal Data - Assessment Profile

Cohorts 1 & 2 - S '93-S '97

Means

Scale	Group	Cohort 1				Cohort 2			
		S '93	S '94	S '95	S '96	S '94	S '95	S '96	S '97
Total Composite		K	Grade 1	Grade 2	Grade 3	K	Grade 1	Grade 2	Grade 3
	Entire Population	73.64	69.30	65.35	59.95	86.00	69.37	64.38	65.93
	Demonstration	76.58	73.08	66.22	56.20	78.45	86.67	70.13	68.17
	Comparison-1	47.80	46.80	50.00	56.50	83.00	42.40	58.50	62.75
	Comparison-2	85.38	80.50	78.75	68.50	90.57	73.25	58.67	65.80
Learning Environment	Entire Population	31.00	25.92	9.95	9.71	38.35	11.64	10.47	10.05
	Demonstration	34.25	28.67	10.89	8.90	39.18	13.44	12.44	10.33
	Comparison-1	12.40	11.00	3.75	10.60	32.20	4.40	8.67	10.20
	Comparison-2	37.75	31.13	12.00	10.33	41.43	14.13	8.71	9.50
Scheduling	Entire Population	5.68	6.35	11.96	6.10	6.04	12.40	6.05	6.10
	Demonstration	5.00	7.00	12.45	6.10	4.82	13.57	5.89	6.11
	Comparison-1	8.60	6.60	11.50	6.00	10.20	12.00	6.00	6.00
	Comparison-2	4.87	4.83	11.50	6.17	5.00	11.63	6.25	6.17
Curriculum	Entire Population	13.80	14.32	16.40	16.60	14.91	17.00	17.17	18.22
	Demonstration	14.67	15.00	16.09	15.10	15.00	21.89	17.75	16.89
	Comparison-1	9.00	10.80	11.25	15.00	13.40	8.40	16.50	17.75
	Comparison-2	15.50	15.00	19.86	20.17	15.86	15.88	16.75	21.00

Table 1 Continued...

Longitudinal Data - Assessment Profile

Cohorts 1 & 2 - S '93-S '97

Means

Scale	Group	Cohort 1				Cohort 2			
		S '93	S '94	S '95	S '96	S '94	S '95	S '96	S '97
Interacting		K	Grade 1	Grade 2	Grade 3	K	Grade 1	Grade 2	Grade 3
	Entire Population	11.56	12.04	14.48	15.62	12.78	14.18	16.25	16.29
	Demonstration	11.83	12.00	13.82	14.30	12.09	17.78	15.78	15.83
	Comparison-1	9.00	10.80	13.50	16.60	13.40	7.80	18.00	17.80
	Comparison-2	12.75	12.88	15.88	17.00	13.57	14.13	16.13	15.50
Individualizing	Entire Population	11.60	11.56	10.78	11.24	13.91	12.77	13.40	11.35
	Demonstration	10.83	10.42	9.27	10.60	13.36	13.56	13.22	11.44
	Comparison-1	8.80	7.60	10.00	11.40	14.00	9.00	15.00	11.60
	Comparison-2	14.50	15.75	13.25	12.17	14.71	14.25	13.00	11.00
Availability of Learning Materials	Entire Population	--	--	1.70	1.67	--	1.85	2.79	1.75
	Demonstration	--	--	1.73	1.20	--	2.13	4.00	1.66
	Comparison-1	--	--	0.00	1.40	--	0.80	2.33	1.80
	Comparison-2	--	--	3.00	2.67	--	2.25	1.43	1.83

Table 2 (A)

Assessment Profile
Spring 1995 - Cohort 1
Levels of Significance of Analysis of Variance
BY SCALE SCORE

	Demonstration Comparison-1 Comparison-2
Total Composite Score Demonstration Comparison-1 Comparison-2	no statistically significant differences
Learning Environment Demonstration Comparison-1 Comparison-2	no statistically significant differences
Scheduling Demonstration Comparison-1 Comparison-2	no statistically significant differences
Curriculum Demonstration Comparison-1 Comparison-2	$p < .05$
Interacting Demonstration Comparison-1 Comparison-2	no statistically significant differences
Individualizing Demonstration Comparison-1 Comparison-2	$p < .01$
Availability of Learning Materials Demonstration Comparison-1 Comparison-2	no statistically significant differences

Table 3 (A)

Assessment Profile
Cohort 2 - Spring 1995
Levels of Significance of Analysis of Variance
BY SCALE SCORE

	Demonstration	Comparison-1	Comparison-2
Total Composite Score			
Demonstration	---	---	---
Comparison-1	$p < .01$	---	$p < .01$
Comparison-2	---	---	---
Learning Environment			
Demonstration	---	---	---
Comparison-1	---	---	---
Comparison-2	$p < .01$	---	$p < .01$
Scheduling			
Demonstration	---	---	$p < .05$
Comparison-1	---	---	---
Comparison-2	---	---	---
Curriculum			
Demonstration	---	---	---
Comparison-1	$p < .01$	---	$p < .05$
Comparison-2	---	---	---
Interacting			
Demonstration	$p < .01$	---	---
Comparison-1	---	---	---
Comparison-2	---	---	---
Individualizing			
Demonstration	---	---	---
Comparison-1	---	---	$p < .05$
Comparison-2	---	---	---
Availability of Learning Materials	no statistically significant differences		
Demonstration			
Comparison-1			
Comparison-2			

APPENDIX B

Longitudinal Data

ADAPT: A Developmentally Appropriate Practice Template

Table 1 (B)
Longitudinal Data - ADAPT
Cohorts 1 & 2 - S '95-S '97
Means

Scale	School	Cohorts 1 and Cohort 2 - Combined		
		S '95	S '96	S '97
Curriculum & Instruction: Promoting Children's Academic Development		Cohort 1: Grade 2 Cohort 2: Grade 1	Cohort 1: Grade 3 Cohort 2: Grade 2	Cohort 2: Grade 3
	Entire Population	15.67	14.07	16.20
	School A	11.60	13.40	12.67
	School B	22.83	19.80	24.00
	School C	15.40	10.40	12.50
	School D	13.00	8.33	14.00
	School E	10.80	12.25	13.50
	School F	15.75	13.30	16.25
	School G	9.75	16.60	16.67
	School H	24.75	17.25	21.50
	Demonstration	16.20	13.50	15.44
	Comparison-1	10.33	14.67	15.40
	Comparison-2	18.00	14.43	18.00

Table 1 (B) Continued...
Longitudinal Data - ADAPT
Cohorts 1 & 2 - S '95-S '97
Means

Scale	School	Cohorts 1 and Cohort 2 - Combined		
		S '95	S '96	S '97
Interaction: Supporting Children's Social and Emotional Development		Cohort 1: Grade 2 Cohort 2: Grade 1	Cohort 1: Grade 3 Cohort 2: Grade 2	Cohort 2: Grade 3
	Entire Population	16.58	16.33	16.95
	School A	11.80	14.40	13.00
	School B	25.17	23.60	29.00
	School C	13.40	10.00	13.00
	School D	16.00	10.75	13.50
	School E	11.80	14.50	11.00
	School F	16.92	16.40	16.50
	School G	9.00	19.40	18.67
	School H	26.75	21.00	22.50
	Demonstration	17.05	14.89	16.67
	Comparison-1	10.56	17.22	15.60
	Comparison-2	19.38	17.71	18.50

Table 1 (B) Continued..
Longitudinal Data - ADAPT
Cohorts 1 & 2 - S '95-S '97
Means

Scale	School	Cohorts 1 and Cohort 2 - Combined		
		S '95	S '96	S '97
Classroom Management		Cohort 1: Grade 2 Cohort 2: Grade 1	Cohort 1: Grade 3 Cohort 2: Grade 2	Cohort 2: Grade 3
Facilitating Children's Overall Development	Entire Population	16.18	14.52	15.95
	School A	11.20	12.80	10.33
	School B	26.83	22.20	27.00
	School C	15.00	8.80	10.00
	School D	16.00	9.00	15.00
	School E	10.20	10.25	9.50
	School F	15.08	14.20	16.00
	School G	8.50	17.80	18.33
	School H	26.50	20.75	23.00
	Demonstration	17.80	13.42	15.00
	Comparison-1	9.44	14.44	14.80
	Comparison-2	17.94	16.07	18.33

Table 1 (B) Continued...
Longitudinal Data - ADAPT
Cohorts 1 & 2 - S '95-S '97
Means

Scale	School	Cohorts 1 and Cohort 2 - Combined		
		S '95	S '96	S '97
Classroom Summary of Developmentally Appropriate Practice		Cohort 1: Grade 2 Cohort 2: Grade 1	Cohort 1: Grade 3 Cohort 2: Grade 2	Cohort 2: Grade 3
	Entire Population	2.42	2.33	2.90
	School A	1.60	2.20	1.67
	School B	3.83	3.40	5.00
	School C	2.00	1.20	2.00
	School D	2.50	1.25	3.00
	School E	1.20	1.50	2.00
	School F	2.58	2.50	2.75
	School G	1.00	2.80	3.33
	School H	4.25	3.50	4.00
	Demonstration	2.55	2.05	2.78
	Comparison-1	1.11	2.22	2.80
	Comparison-2	3.00	2.78	3.17

Table 1 (B) Continued...
Longitudinal Data - ADAPT
Cohorts 1 & 2 - S '95-S '97
Means

Scale	School	Cohorts 1 and Cohort 2 - Combined		
		S '95	S '96	S '97
Total: All Scales		Cohort 1: Grade 2 Cohort 2: Grade 1	Cohort 1. Grade 3 Cohort 2: Grade 2	Cohort 2: Grade 3
	Entire Population	50.84	45.12	49.10
	School A	36.20	40.60	36.00
	School B	78.67	65.60	80.00
	School C	45.80	29.20	35.50
	School D	47.50	27.00	42.50
	School E	34.00	37.00	34.00
	School F	50.33	43.90	48.75
	School G	28.25	53.80	53.67
	School H	82.25	59.00	67.00
	Demonstration	53.60	42.11	47.11
	Comparison-1	31.44	46.33	45.80
	Comparison-2	58.31	48.21	54.83

Table 2 (B)

ADAPT: A Developmentally Appropriate Practice Template
Spring 1995 - Cohorts 1 and 2
Levels of Significance of Analysis of Variance
BY SCALE SCORE

	Demonstration	Comparison-1	Comparison-2
Curriculum and Instruction			
Demonstration	---	---	---
Comparison-1	$p < .05$	---	$p < .01$
Comparison-2	---	---	---
Interaction			
Demonstration	---	---	---
Comparison-1	$p < .05$	---	$p < .01$
Comparison-2	---	---	---
Classroom Management			
Demonstration	---	---	---
Comparison-1	$p < .01$	---	$p < .01$
Comparison-2	---	---	---
Classroom Summary of Developmentally Appropriate Practice			
Demonstration	---	---	---
Comparison-1	$p < .01$	---	$p < .01$
Comparison-2	---	---	---
Total All Scales			
Demonstration	---	---	---
Comparison-1	$p < .05$	---	$p < .01$
Comparison-2	---	---	---

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